Superfund Program
Proposed Plan

U.S. Environmental Protection Agency, Region II

Cornell-Dubilier Electronics Site

January 2002

DRAFT

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan identifies the Preferred Alternative for the remedy for addressing contaminated soil at properties in the vicinity of the Cornell-Dubilier Electronics (CDE) facility and provides the rationale for this preference. The Preferred Alternative calls for the excavation and off-site disposal of soils contaminated with polychlorinated biphenyls (PCBs) on residential, commercial, and municipal properties nearby the CDE facility, and would be the final remedy for those properties. EPA has conservatively estimated the number of affected properties at up to 12, with a projected 2,100 cubic yards of contaminated soil. In addition, EPA has estimated that seven properties will also require interior dust remediation because of elevated PCB levels. The Proposed Plan includes summaries of all the cleanup alternatives evaluated for use at these properties. This document is issued by the U.S. Environmental Protection Agency (EPA), the lead agency for site activities, and the New Jersey Department of Environmental Protection (NJDEP), the support agency. EPA, in consultation with NJDEP, will select a final soil remedy for these properties after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with NJDEP, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan. A final remedy to address the facility soils, facility buildings, groundwater, and the Bound Brook will be presented in future Proposed Plans and Record of Decisions (RODs).

EPA is issuing this Proposed Plan as part of its community relations program under section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or Superfund). This Proposed Plan summarizes information that can be found in greater detail in the CDE Remedial Investigation and Feasibility Study (RI/FS) reports and other documents contained in the Administrative Record file for this site. EPA and NJDEP encourage the public to review these documents to gain a more comprehensive understanding of the site and Superfund activities that have been conducted at the site.

Dates to remember:
MARK YOUR CALENDAR

PUBLIC COMMENT PERIOD:
XXX - XXX, 2002
U.S. EPA will accept written comments on the Proposed Plan during the public comment period.

PUBLIC MEETING:
January XX, 2002
U.S. EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at Borough Hall, 2480 Plainfield Avenue, South Plainfield, New Jersey at 7:00 p.m.

For more information, see the Administrative Record at the following locations:

U.S. EPA Records Center, Region II
290 Broadway, 18th Floor.
New York, New York 10007-1866
(212)-637-3261
Hours: Monday-Friday - 9 am to 5 pm

South Plainfield Library
2484 Plainfield Avenue
South Plainfield, New Jersey 07080
(908) 754-7885
Hours:
Monday, Wednesday, and Thursday - 10 am to 9 pm
Tuesday and Friday - 10 am to 6 pm

SITE HISTORY

The CDE facility is located at 333 Hamilton Boulevard in South Plainfield, Middlesex County, New Jersey. The fenced 27-acre facility is bounded on the northeast by the Bound Brook and the former Lehigh Valley Railroad, Perth Amboy Branch (presently Conrail); to the southeast by the Bound Brook and the South Plainfield Department of Public Works property; to the southwest, across Spicer Avenue, by single-family residential properties; and to the northwest, across Hamilton Boulevard, by mixed residential and commercial properties (see Figure1).

CDE operated at the facility from 1936 to 1962, manufacturing electronic components, including capacitors.

It is reported that CDE also tested transformer oils at the facility. It is alleged that during its operations, CDE dumped or buried PCB-contaminated materials and other hazardous substances directly on the facility soils. These activities led to widespread chemical contamination at the facility, as well as migration of contaminants to areas adjacent to the facility. PCBs have been detected in the groundwater, soils and in building interiors at the industrial park, at adjacent residential, commercial, and municipal properties and in the surface water and sediments of the Bound Brook. The facility, currently known as the Hamilton Industrial Park, consists of 18 buildings and is occupied by several commercial businesses. Since 1962, over 100 companies have operated at the facility as tenants.

In June 1994, at the request of NJDEP, soil, surface water, and sediments at the facility were sampled and analyzed by EPA. The results of the sample analyses revealed that elevated levels of PCBs, volatile organic compounds (VOCs), and inorganics were present at the site.

As a result of the contamination found at the facility, EPA ordered the owner of the facility property, D.S.C. of Newark Enterprises, Inc. (DSC), a potentially responsible party (PRP), to perform a removal action in 1997 to mitigate risks associated with contaminated soil and surface water runoff from the facility. The removal action included paving driveways and parking areas in the industrial park, installing a security fence, and implementing drainage controls.

In October and November 1997, EPA collected soil and interior dust samples from residential properties on Spicer Avenue, near the industrial park. EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed the data obtained from this sampling and concluded that exposure to PCBs in dust and soil posed a potential health concern for residents of several of the properties tested. To address these concerns, EPA initiated another removal action to clean the interiors of seven homes on Spicer Avenue, Garibaldi Avenue, and Hamilton Boulevard, and ordered the PRPs for the facility to remove contaminated soil from six of the residential properties. Interior dust remediation of the seven homes was completed in April 1998. Removal of PCB-contaminated soil at the six homes was completed in September 1999.

Because of contamination found on residential properties in 1997, in 1998 EPA expanded its investigation to Delmore Avenue and Hamilton Boulevard near the industrial park. PCBs were found in dust and soil that posed a potential health concern for residents. To address these concerns, EPA cleaned the interiors of eight homes on Delmore Avenue and Hamilton Boulevard and ordered the PRPs for the facility to remove contaminated soil from seven residential properties. Interior cleaning of the eight homes was completed in April 1998 by EPA, and removal of PCB-contaminated soil at the seven homes was completed in January 2000 by PRPs.

In July 1998, EPA included the CDE site on its National Priorities List.

In 1999, EPA conducted a preliminary investigation of the Bound Brook to evaluate the potential impacts of contamination on human health and the environment. Elevated levels of PCBs were found in fish and sediments of the Bound Brook. As a result of these investigations, NJDEP issued a fish consumption advisory for the Bound Brook and its tributaries, including New Market Pond and Spring Lake.

ENFORCEMENT

PRPs for the site include Cornell-Dubilier Electronics Corporation (CDE), Dana Corporation, Dana Corporation Foundation, and Federal Pacific Electric Company. In addition, DSC, the current owner of the Hamilton Industrial Park, has been named as a PRP. Four administrative orders have been issued to perform portions of the removal actions required at the site. The first administrative order to DSC, issued in 1997, required the installation and maintenance of site stabilization measures to limit the movement of contaminants from the industrial park. These actions included paving driveways and parking areas in the industrial park, installing a security fence and implementing drainage controls.

In 1998 and 1999, administrative orders addressed soil removal work from six properties on Spicer Avenue (referred to by EPA as Tier I), and from seven properties on Delmore Avenue and Hamilton Boulevard (referred to by EPA as Tier II), respectively. DSC and Cornell-Dubilier Electronics signed on to the 1998 administrative order and Dana Corporation and Cornell-Dubilier Electronics signed on to the 1999 administrative order. EPA also issued a participate and cooperate order in 1999 to Federal Pacific Electric and DSC for the Tier II properties. In April 2000, EPA ordered DSC to remove PCB-contaminated soil from one additional property on

Spicer Avenue. DSC has not performed this work, and EPA now plans to undertake this removal action later this year. Based upon the analytical results from the earlier removal investigations, EPA decided to perform a comprehensive study of the site, called a Remedial Investigation and Feasibility Study (RI/FS), to help determine the nature and extent of contamination. In July 1998, EPA offered the PRPs an opportunity to perform the RI/FS. After efforts to agree on the scope of the remedial investigation required at the site were unsuccessful, EPA elected to perform the RI/FS using federal funds. In 2000, a group of PRPs initiated discussions with the Borough of South Plainfield regarding the future redevelopment of the Hamilton Industrial Park, and how that redevelopment might be accomplished as part of a remedy for the facility soils and buildings. EPA is participating in this future-use planning for the facility as part of a future FS.

SITE CHARACTERISTICS

Field investigations at the site were started in May 2000. Field activities for the properties nearby the CDE facility were completed in August 2000. To expedite the cleanup of the CDE site, EPA has divided the site into remedial action phases or operable units (OUs). Operable Unit 1 (OU1) addresses residential, commercial, and municipal properties in the vicinity of the CDE facility. The second operable unit (OU2) will address the remediation of source materials, including contaminated facility soils and buildings. The third and final operable unit (OU3) will address the contaminated groundwater and contaminated sediments at the Bound Brook.

Sampling Approach

As part of this RI for OU1, EPA targeted a group of 19 residential, commercial, and municipal properties in the vicinity of the CDE facility for extensive surface and subsurface PCB testing. Some of these 19 properties were in areas where previous testing had indicated a higher likelihood of finding elevated PCB levels, while others were in areas further from the facility, where no elevated PCB levels were anticipated.

EPA also collected samples along the curb-side right-of-ways in areas around the CDE facility, to provide a broader scope to the investigation and identify PCB distribution trends that would not be found by sampling individual properties. During the earlier removal investigations, EPA had performed curb-side surveys of Delmore, Arlington and Belmont Avenues, and in the RI, this curb-side sampling was expanded to the right-of-ways of 13 roadways in the vicinity of the CDE facility, including public right-of-ways within the Bound Brook flood plain, located downstream (northwest) of the CDE facility.

During the summer of 2000, 864 samples were collected as part of the RI on properties in the vicinity of the CDE facility. Only 25 samples were found with concentrations of PCBs in excess of EPA's Soil Screening Level for direct ingestion and dermal contact of 1 ppm. The soil remedial investigation indicated the following:

Surface Contamination

- Of the 630 surface soil samples, PCB concentrations ranged from non-detect to 57 parts per million (ppm). Of these 630 samples, only 20 samples exceeded the EPA Soil Screening Level of 1 ppm total PCBs.

Subsurface Contamination

- Of the 177 subsurface soil samples collected at 16 to 18-inches below ground surface, only five samples exceeded the EPA Soil Screening Level of 1 ppm total PCBs. Concentrations in three of the five samples had an average of 1.3 ppm, and the fourth and fifth samples had concentrations of 44 ppm and 310 ppm.

Results from the 19 Targeted Properties

- Eighteen of the 25 samples found with concentrations of PCBs in excess of EPA's Soil Screening Level of 1 ppm were found during this phase of the investigation. Of the 19 properties surveyed (approximately 20 samples per property), only three properties were identified with elevated levels of PCBs in soil that might pose a risk to human health or the environment.

Results from the Curbside Right-of-Way Sampling

- Seven of the 25 samples found with concentrations of PCBs in excess of EPA's Soil Screening Level of 1 ppm were found during this phase of the investigation. Right-of-way sampling indicated more frequent detections on blocks nearer the CDE facility and on high-traffic streets like Hamilton Boulevard and New Market Avenue. These data trends support a pattern of wind-blown or vehicle-carried contamination from the facility.

Bound Brook Floodplain

- None of the 174 surface and subsurface soil samples collected from residential properties and public right-of-ways within the Bound Brook floodplain, located downstream (northwest) of the CDE facility, exceeded the EPA Soil Screening Level of 1 ppm total PCBs.

Additional Data Needs

The majority of the PCB measurements detected during the RI were in the surface samples, collected in the first few inches of soil. EPA analyzed data from the RI and the earlier removal investigations, and identified approximately 28 properties where additional soil sampling is called for. Figure 2 illustrates the study area where additional testing is necessary. Based upon EPA's experience with the testing performed to date, EPA has conservatively estimated that approximately 12 properties would be identified with at least some elevated PCB levels during these expanded property investigations.

In addition, during earlier removal activities PCBs were measured in residential indoor dust, though the dust measurements were sporadic in nature and not necessarily correlated with higher levels of PCBs in surface soils. Unlike the soil sampling analysis described above, EPA has not identified a pattern to the indoor dust measurements, though additional indoor dust testing for PCBs is called for. EPA anticipates that the dust sampling would be performed on a subset of the 28 properties identified for soil sampling. EPA has conservatively estimated that up to seven additional properties be identified with elevated PCBs in indoor dust during these expanded property investigations.

The number of affected properties, referenced in this Proposed Plan with elevated levels of PCBs, is an estimate used to calculate the approximate costs of the cleanup alternatives. The precise number of properties that would require either soil remediation or interior cleaning under this proposed OU1 remedy would be determined upon the completion of the additional sampling.

SCOPE AND ROLE OF THE ACTION

As previously stated, this Proposed Plan discusses the preferred alternative for addressing PCB-contaminated soils at residential, commercial, and municipal properties in the vicinity of the CDE facility that are above EPA's acceptable risk range. Future Proposed Plans will address other contamination problems posed by the site. EPA's remedial investigations of the facility soil and buildings contamination, the ground water, and sediment contamination are ongoing. EPA plans to complete an OU2 RI/FS for the facility soils and buildings in 2002. EPA's findings to date indicate the presence of "principal threat" wastes on the facility. No principal threat wastes were identified in the OU1 residential, commercial, and municipal properties.

WHAT IS A "PRINCIPAL THREAT"?

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, surface water or air, or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in groundwater may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

SUMMARY OF SITE RISKS

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects caused by hazardous substance release from a site in the absence of any actions or controls to mitigate these under current and
future land uses. The CDE facility is bounded by residential, commercial, and municipal properties. Based on the identified current and potential future land uses, the most likely current populations at risk of exposure are residents and commercial/municipal workers. Residential land use is most often associated with the greatest exposures based on frequency and duration that could result from current and future ingestion and direct contact with contaminated surface and subsurface soil. Therefore, the baseline risk assessment focused on health effects to residential land use scenario, although there are residential, commercial, and municipal properties under evaluation. Evaluating a residential scenario was considered "reasonable maximum exposure", and therefore most protective of human health.

Human Health Risks

As part of the RI/FS, EPA conducted a baseline risk assessment for residential, commercial, and municipal properties in the vicinity of the CDE facility to determine the current and future effects of PCBs on human health. PCBs were identified as the contaminant of concern in previous investigations that started in 1994. The baseline risk assessment focused on health effects for both young children (up to 6 years old) and adults, in a residential setting, that could result from current and future direct contact with contaminated soil, such as incidental ingestion and dermal contact.

The soil samples collected from the residential, commercial, and municipal properties in the vicinity of the CDE facility were analyzed for PCBs. PCBs were analyzed using EPA's standard sampling methodology that identifies PCBs in the environment as Aroclors. "Aroclor" is the trade name given to commercially manufactured mixtures of PCBs. The different mixtures are identified with a four digit number (e.g., Aroclor-1254). Aroclors were chosen for evaluation because they were used in the former manufacturing processes at the CDE facility and are bioaccumulative and persistent in the environment. The Aroclors detected at the properties in the vicinity of the CDE facility are Aroclor-1254 and Aroclor-1260.

In the baseline risk assessment, surface soil, as well as subsurface soil, were examined to determine the cancer risk and non-cancer health hazards associated with exposure to PCBs on each of the properties sampled.

For known or suspected carcinogens, EPA has established an acceptable cancer risk range of one-in-a million ($1 X10^{-6}$) to one-in-ten thousand ($1 X 10^{-4}$). Action is generally warranted when excess lifetime cancer risk exceeds one-in-ten thousand. In other words, for every 10,000 people exposed under the assumptions used in the risk assessment, one additional cancer *may* occur as a result of exposure to the PCB-contaminated soils.

Results of the risk assessment indicate that the cancer risk estimates for adult and young child residents was above the risk range at 1 property ($9.2 x10^{-5}$ for adults and $2 x10^{-4}$ for the young child).

For the evaluation of non-cancer human health hazards, 3 properties exceeded EPA's target hazard index of 1. The hazard indices were 56, 2.8, and 2.4 for the young child and 6.7, less than 1, and less than 1for the adult at the individual properties, respectively. These cancer risks and non-cancer hazard levels indicate that there is a potential cancer risk and non-cancer health hazard to children and adults from direct exposure to contaminated surface and subsurface soil at these three properties. These risk estimates are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to the surface and subsurface soils, as well as the toxicity of PCB.

WHAT ARE THE "CONTAMINANTS OF CONCERN"?

The contaminant of concern at the residential, commercial, and municipal properties in the vicinity of the Cornell-Dubilier Electronics facility is polychlorinated biphenyls (PCBs).

PCBs: PCBs is the contaminant that drives the soil risk. PCBs were detected on residential, commercial, and municipal properties in the vicinity of the CDE facility in soil (0 to 2 inches below ground surface) at (non detect, 44 ppm ; minium, and maximum, respectfully). In deeper subsurface soil samples (16 to 18 inches below ground surface), it was detected at (non detect, 310 ppm; minium and maximum, respectfully).

PCBs were widely used as a fire preventative and insulator in the manufacture of transformers, capacitors, and other electrical equipment because of their ability to withstand exceptionally high temperatures. The manufacture of PCBs stopped in the United States in 1977.

EPA has determined that PCBs cause cancer in animals and probably cause cancer in humans. Serious non-cancer health effects have been observed in animals exposed to PCBs. Studies of Rhesus monkies exposed to PCBs indicate a reduced ability to fight infection and reduced birth weight in

It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect human health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

Ecological Risks

A four-step process is utilized for assessing site-related ecological risks for a reasonable maximum exposure scenario: *Problem Formulation*—a qualitative evaluation of contaminant release, migration, and fate; identification of contaminants of concern, receptors, exposure pathways, and known ecological effects of the contaminants; and selection of endpoints for further study. *Exposure Assessment*—a quantitative evaluation of contaminant release, migration, and fate; characterization of exposure pathways and receptors; and measurement or estimation of exposure point concentrations. *Ecological Effects Assessment*—literature reviews, field studies, and toxicity tests, linking contaminant concentrations to effects on

ecological receptors. *Risk Characterization*— measurement or estimation of both current and future adverse effects.

An ecological risk assessment (ERA) was performed for the surface soils at properties in the vicinity of the CDE facility. The objective of the ERA was to assess potential risks to terrestial receptors from contaminants found on these properties. Based on the ERA, PCB-contaminated soils at these properties represent low potential risks to wildlife species, due to the lack of significant habitat at most of the off-site properties. An ERA for the CDE facility is being conducted as part of the later operable units (OU2 and OU3) that includes surface water and associated wetlands.

REMEDIAL ACTION OBJECTIVES

The following remedial action objectives for contaminated soil address the human health risks and environmental concerns at residential, commercial, and municipal properties in the vicinity of the CDE facility:

- Reduce or eliminate the direct contact threat associated with contaminated soil to levels protective of current land use and considering the future residential use; and

- prevent exposure and minimize disturbance to the surrounding community of South Plainfield, during implementation of the remedial action.

EPA's June 1998 Toxic Substances Control Act (TSCA) rule for PCBs specifies a cleanup goal of 1 ppm for unrestricted residential land use, and EPA is using 1 ppm as its preliminary remediation goal (PRG) in this Proposed Plan. The State of New Jersey has developed a State-wide soil cleanup criteria for PCBs of 0.49 ppm. Based on the data collected to date, in meeting EPA's cleanup levels for PCBs, EPA believes the remedy may also achieve the State of New Jersey residential direct contact soil cleanup criteria. Sampling collected as part of the RI and previous removal curbside right-of-way investigations indicate that 34 samples exceeded EPA's PRG, and 59 additional samples exceeded the NJDEP's criteria of 0.49 ppm. If the remedy does not achieve the State residential direct contact cleanup criteria of 0.49 ppm for PCBs, the State may elect to pursue additional soil removal, or require that restrictions be placed on properties to prevent future direct contact with soils above 0.49 ppm.

SUMMARY OF REMEDIAL ALTERNATIVES

Remedial Alternatives for OU1 soils are presented below. CERCLA requires that if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, EPA must review the action no less often than every five years after initiation of the action. In addition, institutional controls (*e.g.*, a deed notice in the form of an easement or covenant) to limit the use of portions of the property may be required. These use restrictions are discussed in each alternative as appropriate. The type of restriction and enforceability will need to be determined after completion of the remedial alternative selected in the ROD. Consistent with expectations set out in the Superfund regulations, none of the remedies rely exclusively on institutional controls to achieve protectiveness. The time frames below for construction do not include the time for remedial design or the time to procure contracts.

The remedial alternatives evaluated in this Proposed Plan were limited for several reasons. This is a well-established, primarily residential neighborhood, and space is limited, and on-site remedies that involve treatment or containment (such as creating a disposal cell for the soil in the area) were not considered. In addition, since no principal threat wastes are associated with OU1 and the contaminant concentrations are relatively low, treatment of the contaminated soil was not considered as a principal element of any alternative.

Alternative 1: No Action

Estimated Capital Cost: *$0*
Estimated Annual O&M Cost: *$0*
Estimated Present Worth Cost: *$0*
Estimated Construction Time frame: None

Regulations governing the Superfund program generally require that the "no action" alternative be evaluated generally to establish a baseline for comparison. Under this alternative, EPA would take no action at these properties to prevent exposure to the soil contamination and the contaminated soil would be left in place. Because contaminated soil would be left in place under this alternative, a review of the remedy every five years would be required.

Alternative 2: Limited Action; engineering and institutional controls

Estimated Capital Cost: $520,000
Estimated Annual O&M Cost: $20,000
Estimated Present Worth Cost: $770,000
Estimated Construction Time frame: 3 to 6 months

The Limited Action alternative would provide minimal engineering and institutional controls to prevent exposure to PCB-contaminated soils. Capping would be performed to minimize exposure to PCB-contaminated soil. The areas to be capped for each property would limit exposure to PCBs at concentrations greater than 1 ppm. Controls would also include implementation of deed notices or restrictions to limit future use of the properties, implementation of public awareness programs and five-year reviews to assess the need for future remedial actions.

This alternative would require an investigation of additional properties in the study area, during the remedial design, to determine if additional properties require remediation. The sampling would include exterior soils and the collection of dust samples from the interior of homes.

Sealing or other engineering controls to prevent direct contact or inhalation of PCB-contaminated indoor dust is not feasible in a residential setting. Therefore, this Alternative would include indoor dust remediation where PCB-contaminated dust is encountered. Remediation of the interior of homes includes the cleaning of homes where health concerns or potential health concerns exist and the temporary relocation of residents during the cleaning. The cleaning procedures to be employed include: wiping down all horizontal exposed surfaces; vacuuming floors, drapes, upholstery, molding and window casings using HEPA vacuums; washing all tile, linoleum and wood floors; steam cleaning or replacing carpets and area rugs; cleaning heating and cooling ducts; and cleaning or replacing all filters on air handling equipment.

Post-cleaning indoor dust samples would be collected to determine the effectiveness of the cleaning.

Because PCB-contaminated soil would be left in place as part of Alternative 2, review of the remedy every five years would be required.

Alternative 3: Excavation; Off-Site Disposal with Treatment

Estimated Capital Cost: $760,000
Estimated Annual O & M Cost: $0
Estimated Present Worth Cost: $760,000
Estimated Construction Time frame: 12 months

This Alternative includes the excavation of an estimated 2,100 cubic yards of PCB-contaminated soil and off-site disposal at a Resource Conservation and Recovery Act (RCRA) or Toxic Substances Control Act (TSCA) regulated landfill as appropriate based on the concentrations of PCBs in the excavated soils. If necessary, in order to meet the requirements of the disposal facilities, treatment of the soil may be performed using any of the technologies identified in the Feasibility Study. Under this Alternative, PCB-contaminated soil found at properties in excess of the PRG would be excavated for off-site disposal. Once excavation activities have been completed, clean soil will be used as backfill.

Based on the investigation performed to date, EPA has estimated that up to 12 properties will require remediation, with an estimated 2,100 cubic yards of contaminated soil. To date, four properties have been identified that would require remediation under this Alternative: three properties that were identified in the RI investigation, and one property that was identified during the earlier removal action investigation. This one property did not require an immediate response under

SUMMARY OF SOIL REMEDIAL ALTERNATIVES

Medium	Source Control Alternatives	Description
SOIL	SC-1	No Action
	SC-2	Limited Action; Engineering and Institutional Controls
	SC-3	Excavation; Off-Site Disposal with Treatment (if necessary)

EPA's removal action authority, but would be addressed under this final remedy.

This alternative would also include an investigation of the study area, during the remedial design, to determine if additional properties require remediation. The sampling would include exterior soils and the collection of dust samples from the interior of homes.

Therefore, this Alternative would include indoor dust remediation where PCB-contaminated dust is encountered. Remediation of the interior of homes includes the cleaning of homes where health concerns or potential health concerns exist and the temporary relocation of residents during the cleaning. The cleaning procedures to be employed include: wiping down all horizontal exposed surfaces; vacuuming floors, drapes, upholstery, molding and window casings using HEPA vacuums; washing all tile, linoleum and wood floors; steam cleaning or replacing carpets and area rugs; cleaning heating and cooling ducts; and cleaning or replacing all filters on air handling equipment.

Post-cleaning indoor dust samples would be collected to determine the effectiveness of the cleaning.

EVALUATION OF ALTERNATIVES

Nine criteria are used to evaluate the different remediation alternatives individually and against each other in order to select an alternative. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how it compares to the other options under consideration. The nine evaluation criteria are discussed below. The "Detailed Analysis of Alternatives" can be found in the FS.

1. Overall Protection of Human Health and the Environment

All of the alternatives except Alternative 1 (No Action) would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through off-site disposal/treatment, engineering controls, and/or institutional controls. Alternative 2 would provide some protection to property owners/occupants from future exposure to contaminated soils through the placement of cover material, and through institutional controls such as land use restrictions and public education. However, contaminated soils would remain in place above the cleanup goals.

Alternative 3 (excavation and off-site disposal) would remove soil with PCB concentrations above the PRG and, therefore, would protect both human and environmental receptors from contact with contaminants in the soil.

There would be no local human health or environmental impacts associated with off-site disposal because the contaminants would be removed from the site to a secure location. Alternative 3 would eliminate the actual or potential exposure of residents to contaminated soils.

2. Compliance with ARARs

Actions taken at any Superfund site must meet all applicable or relevant and appropriate requirements (ARARS) of federal state law or provide grounds for invoking a waiver of these requirements. These include chemical-specific, location-specific, and action-specific ARARs. There are no chemical-specific ARARs for the contaminated soils. EPA's June 1998 Toxic Substances Control Act (TSCA) rule for PCBs specifies a cleanup goal of 1 ppm for unrestricted residential land use and EPA is using 1 ppm in this Proposed Plan. The State of New Jersey has developed a State-wide soil cleanup criteria for PCBs of 0.49 ppm, which is a "To Be Considered" criterion. Alternative 1, No Action, would not achieve either the PRG or the State's slightly lower cleanup criterion. Alternatives 2 and 3 would prevent direct contact with PCB-contaminated soil in excess of the PRG, and would also meet the State's cleanup criterion on most properties. On properties where the State criterion is not achieved, NJDEP may elect to take additional actions to meet its more stringent standard.

The Resource Conservation and Recovery Act is a federal law that mandates procedures for treating, transporting, storing, and disposing of hazardous substances. All portions of RCRA that are applicable or relevant and appropriate to the proposed remedy for the site would be met by Alternatives 1 through 3.

3. Long-term Effectiveness and Permanence

Alternative 1 (No Action) provides no reduction in risk. Alternative 2 would not be effective or permanent over the long term, since deed restrictions would not reliably reduce future health risks to property owners/occupants associated with exposure to contaminated surface soils. In contrast, under Alternative 3, long-term risks would be removed, since contaminated soils would be permanently

removed and, therefore, no long-term control would be required. In addition, upon completion of the remedy for Alternative 3, the properties would be suitable for unrestricted residential use. Use of Alternative 3 would not require long-term controls to achieve this goal. Off-site treatment/disposal at a secure, permitted hazardous waste facility for the contaminated soil is reliable because the design of these types of facilities includes safeguards and would ensure the reliability of the technology and the security of the waste material.

4. **Reduction of Toxicity, Mobility, or Volume of Contaminants Through Treatment**

Alternative 1 (No Action) would not achieve any reduction in the toxicity, mobility, or volume of contaminated soil, since the soil would remain in place. Alternative 2 (Limited Action) would reduce the mobility of contaminants through capping, but would not reduce the volume or toxicity. Alternative 3 (Excavation) would reduce contaminant mobility through removal and disposal of the soils at an approved off-site disposal facility. Furthermore, off-site treatment, when required, would reduce the toxicity and volume of the contaminated soils. Soils with PCB concentrations less than 50 ppm would be excavated and transported to a RCRA landfill permitted to accept low levels of PCB waste. Soils with PCB concentrations between 50 and 500 ppm would be excavated and transported to a TSCA landfill without treatment. It is anticipated that hazardous material would not be destroyed under Alternative 3, unless the disposal facility required treatment prior to landfilling.

5. **Short-term Effectiveness**

No short-term adverse impacts to the community would be expected for Alternative 1 (No Action). Minimal impacts would be expected for Alternative 2 since contaminated soils would not be significantly disturbed during cap construction. Alternative 3, however, presents a higher short-term risk because of the greater potential for exposure associated with excavation and transportation of contaminated soils.

Alternative 3 would also cause an increase in truck traffic, noise and potentially dust in the surrounding community, as well as potential impacts to workers during the performance of the work. These potential impacts would be created through construction activities and exposure to the contaminated soil being excavated and handled. However, proven procedures including engineering controls, personnel protective equipment and safe work practices would be used to address potential impacts to workers and the community. For example, the work would be scheduled to coincide with normal working hours (e.g., 8 a.m. to 5 p.m. on week days and no work on weekends or holidays). In addition, trucking routes with
the least disruption to the surrounding community would be utilized. Appropriate transportation safety measures would be required during the shipping of the contaminated soil to the off-site disposal facility.

No environmental impacts would be expected from Alternative 1. The risk of release during implementation of Alternatives 2 and 3, is principally limited to wind blown soil transport or surface water run-off. Any potential environmental impacts associated with dust and run-off would be minimized with proper installation and implementation of dust and erosion control measures and by performing the excavation and off-site disposal with appropriate health and safety measures to limit the amount of material that may migrate to a potential receptor.

No time is required for implementation of Alternative 1 (No Action). Time required for implementation of Alternative 2 (Limited Action) is estimated to take three to six months. Alternative 3 (Excavation) is estimated to take about 12 months to implement.

These time frames do not take into account the performance of additional property investigations, to identify other contaminated properties, that would be required under Alternative 2 and 3. These investigations would be performed during remedial design, and may add up to one year to the typical remedial design time frame of 15 to 18 months. However, the additional investigative work will be performed concurrently with the known contaminated properties so that the work is streamlined.

6. **Implementability**

No technical implementability concerns exist for any of the three alternatives. However, the development of protective engineering and institutional controls, pursuant to Alternative 2, that would be both enforceable and acceptable to the private property owners is in question. All technical components of Alternatives 2 and 3 would be easily implemented using conventional construction equipment and materials. The personnel required to

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES
Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

operate the heavy equipment would require appropriate Occupational Safety and Health Administration (OSHA) certifications (e.g., hazardous waste worker), in addition to being certified in the operation of heavy equipment. Such individuals are readily available. Use of off-site hazardous and non-hazardous treatment/disposal facilities for the disposal of the contaminated soils are available and would be feasible.

7. **Cost**

The estimated capital cost of Alternative 1 (No Action) is $0. Alternative 2 (Limited Action) has an estimated capital cost of $520,000 and a Alternative 3 has a capital cost of $760,000.

8. **State/Support Agency Acceptance**

The State of New Jersey agrees with the preferred alternative in this Proposed Plan.

9. **Community Acceptance**

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the ROD for the site.

SUMMARY OF THE PREFERRED ALTERNATIVE

The preferred alternative for cleaning up soils at residential, commercial, municipal properties in the vicinity of the CDE facility is Alternative 3 (Excavation; Off-Site Disposal), hereafter referred to as the Preferred Alternative. The Preferred Alternative includes excavation, transportation and disposal, with treatment as necessary,
of an estimated 2,100 cubic yards of contaminated soil. Since the preferred alternative would achieve the PRG that is protective for unrestricted land use, institutional controls, such as a deed notice or covenant, will not be needed.

The Preferred Alternative was selected over other alternatives because it is expected to achieve substantial and long-term risk reduction through off-site disposal, and is expected to allow the property to be used for the reasonably anticipated future land use, which is residential and commercial. The Preferred Alternative reduces the
risk within a reasonable time frame, at comparable cost, and provides for long-term reliability of the remedy. Based on the information available at this time, EPA and the State of New Jersey believe the Preferred Alternative would be protective of human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions and alternative treatment technologies to the maximum extent practicable. Because it would treat a portion of source

material constituting principal threats, the Preferred Alternative will meet the statutory preference for the selection of a remedy that involves treatment as a principal element. The selected alternative can change in response to public comment or new information.

COMMUNITY PARTICIPATION

EPA and NJDEP provide information regarding the cleanup of the CDE site to the public through public meetings, the Administrative Record file for the site, and announcements published in the Home News & Tribune newspaper. EPA and the State encourage the public to gain a more comprehensive understanding of the site and the Superfund activities that have been conducted there. The dates for the public comment period, the date, location and time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan.

For further information on the CDE site, please contact:

Peter Mannino	Pat Seppi
Remedial Project Manager	Community Relations Coordinator
(212) 637-4395	(212) 637-3679

U.S. EPA
290 Broadway 19th Floor.
New York, New York 10007-1866

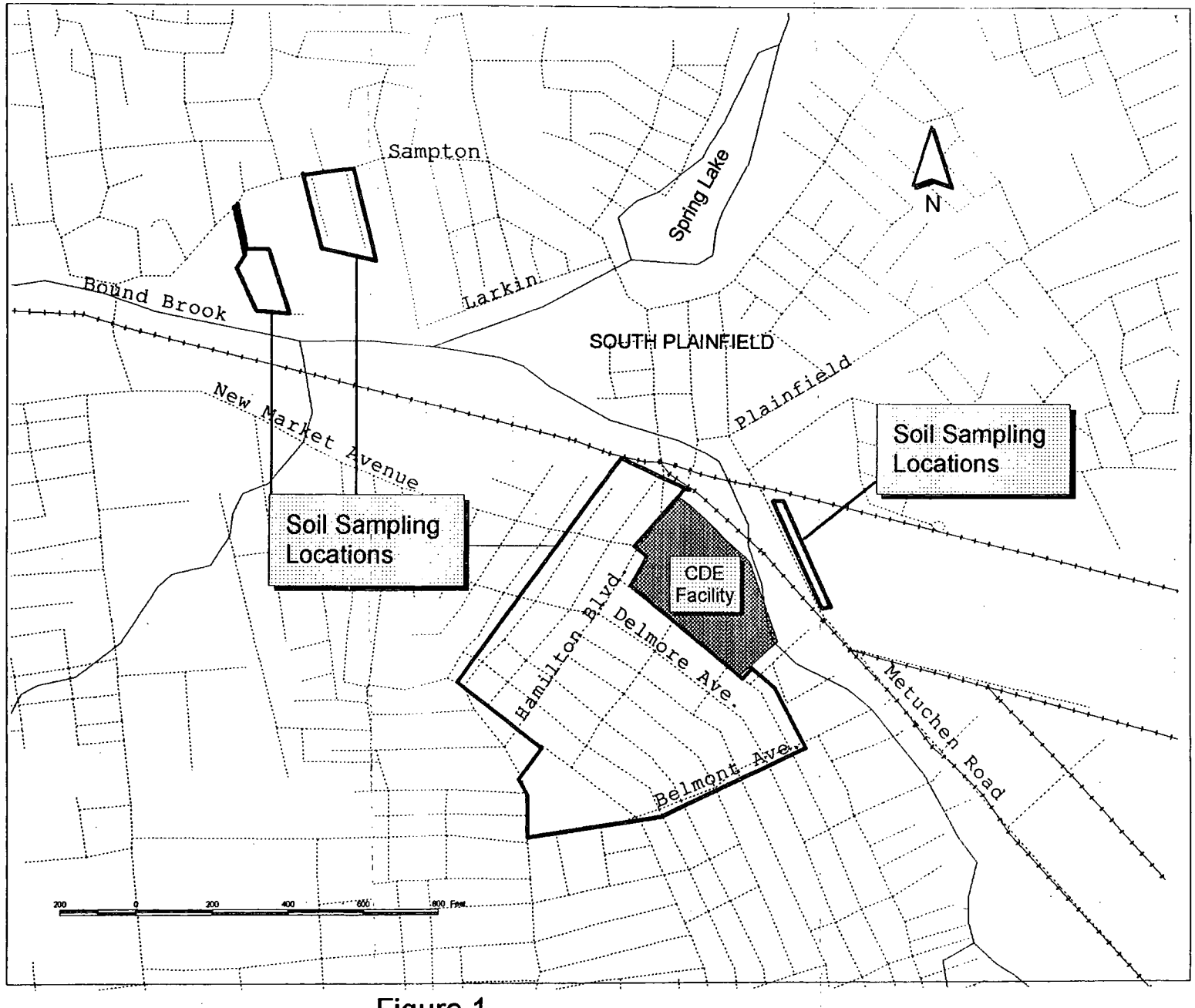

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Figure 1
Cornell-Dubilier Electronics Site
Residential, Commercial, and Municipal Sampling Locations

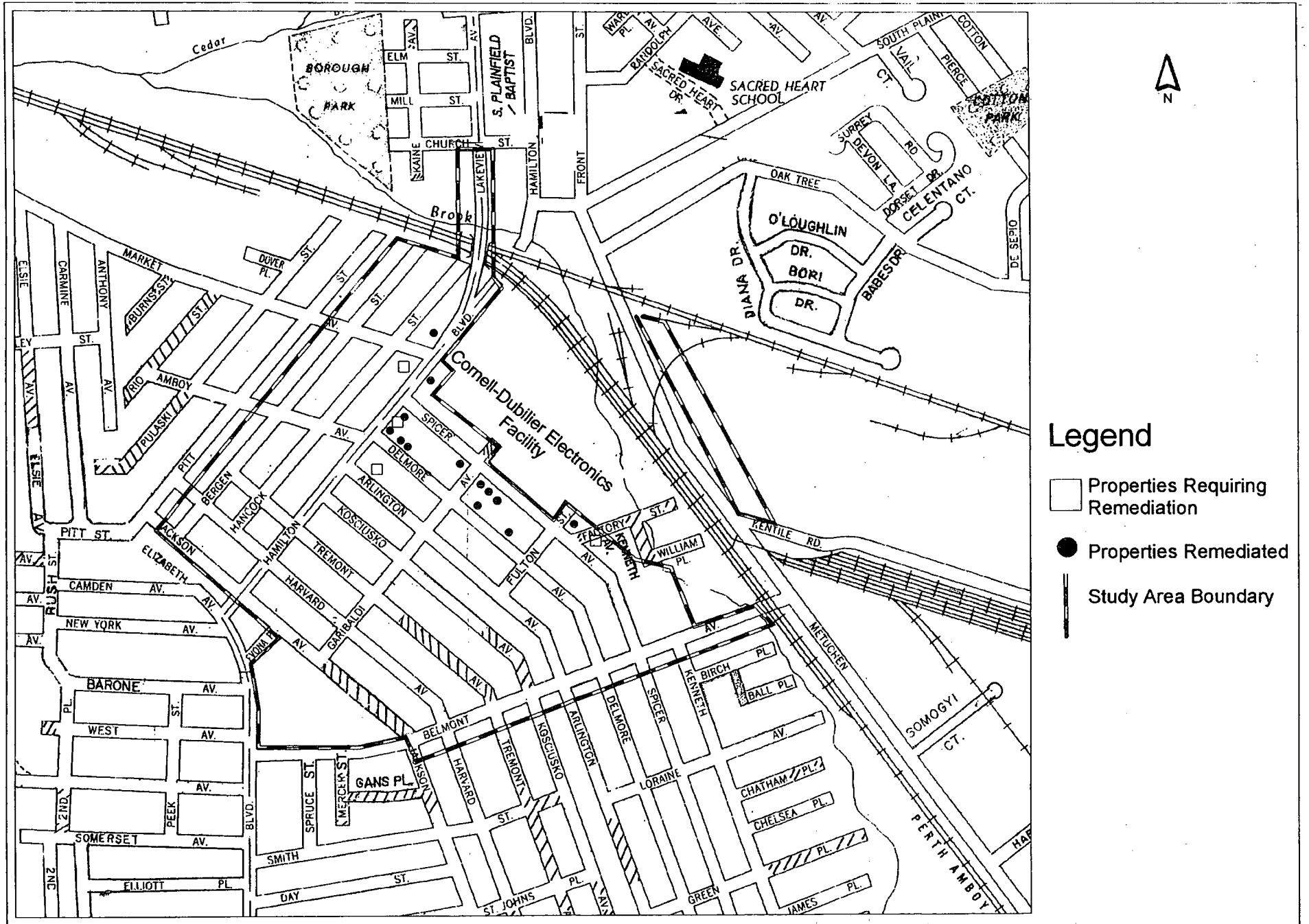

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Figure 2
Cornell-Dubilier Electronics Site
Study Area